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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/080,143	02/21/2002	Koen Vande Velde	AGFA1-3242	9299

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EXAMINER	
LEE, TOMMY D	

ART UNIT	PAPER NUMBER
2625	

DATE MAILED: 03/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/080,143	VELDE ET AL.	
	Examiner	Art Unit	
	Thomas D. Lee	2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-9 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-9 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 2/21/02.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-6 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 4,680,645 (Dispoto et al.).

Regarding claims 1-6, Dispoto et al. disclose a method for reproducing an electronic image, comprising pixels having an input pixel value I_p, on a multilevel output device having N allowable output pixel values, comprising the steps of: for each pixel p choosing a real subset S_p from said N allowable output pixel values, said subset S_p containing N_p allowed output pixel values where $0 < N_p < N$ (output dot sizes (number of allowable output values = N) corresponding to input densities stored in lookup table (Fig. 1); if input density falls between two input densities (number of allowed output values = 2 < N) stored in table, then the closest of the two stored densities is chosen (column 4, lines 40-46)); halftoning said electronic image by a multilevel halftoning algorithm by quantizing, for each of said pixels, said input pixel value to obtain a corresponding output pixel value out of the N_p allowed values in S_p (halftone dots of

various sizes assigned corresponding to gray level (column 4, lines 64-65)); and rendering said image on said multilevel output device by rendering said pixels using said obtained output pixel values (data forwarded to printer, which deposits dots of various sizes in accordance with the input data (column 4, lines 65-68)). Said real subset S_p is chosen as a function of said input pixel value I_p in said electronic image, and contains two of said allowable output pixel values (as mentioned above, if input density falls between two input densities (number of allowed output values = 2 < N) stored in table, then the closest of the two stored densities is chosen (column 4, lines 40-46)). Said input pixel value and said allowable output pixel values correspond to density levels and wherein said allowed output pixel values correspond to the two density levels closest to the density level corresponding to said input pixel value (input density (D1') falls between stored densities D1 and D2 (column 4, lines 41-42)). Said multilevel halftoning algorithm is an error diffusion algorithm with a dot distribution correction in low and high intensity image regions (error propagated to adjacent pixels (column 4, lines 1-4)).

Regarding claim 9, Dispoto et al. disclose a multilevel output device, having N possible output pixel values corresponding to N possible output density levels, for reproducing a continuous tone image having pixels with an input pixel value as a multilevel halftone image, corresponding: means for processing the input pixel value of pixels to obtain a corresponding output pixel value (output pixel values obtained in accordance with values stored in lookup table (Fig. 1)); a control circuit for restricting the allowed output pixel values to a subset of all allowable output pixel values according to

the input pixel value (number of allowable output pixel values restricted to 2 when input density falls between two stored density values (column 4, lines 40-46)); and means for rendering the pixels according to the obtained output pixel values as halftone dots having the corresponding density, thereby rendering the halftone image (data forwarded to printer (column 4, lines 65-68)).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dispoto et al.

Claims 7 and 8 essentially recite the method of above-rejected claim 1, applied for each of a plurality of color components in the reproduction of an electronic color

image. While not specifically disclosed in Dispoto et al., it is well known in the art of color image reproduction that image signals are separated into color components, such as red, green and blue; and that halftoning is applied to each of the color components so as to produce a color reproduction at a printer. Because of its widespread use, and because multi-color reproductions are generally favored over single-color reproductions by most people, it would have been obvious for one of ordinary skill in the art to modify the teaching of Dispoto et al., by performing the error diffusion method for each of a plurality of color components.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas D. Lee whose telephone number is (571) 272-7436. The examiner can normally be reached on Monday-Friday, 7:30-5:00, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David K. Moore can be reached on (571) 272-7437. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Thomas D Lee
Primary Examiner
Technology Division 2625

tdl
March 17, 2006